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by
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Introduction

The rapid pace of technological development is a hallmark of this century. The transition from the industrial age to the information age has dramatically transformed society. High technology companies are now a force in the economy.

The high technology industry is characterized by products containing high information content, rapid innovation, vigorous competition and network externalities, *i.e.*, the high costs of having non-compatible technology that cannot work with other developed systems.[1] These aspects of the industry have resulted in two sometimes opposing trends. The first is the rush to secure proprietary rights in the technology a company has developed.[2] The rapid pace of information acquisition and the relatively high cost of overhead to develop the technology create the pressure to secure patents on developed technology. The second trend is to create compatible products, securing greater aggregate sales and increasing the useful life of patents; a trend which drives corporations to develop non-proprietary uniformity standards.[3]

These two trends produce an inherent conflict between the desire on one hand to develop open and communal uniformity standards for an industry, and on the other hand to secure exclusive rights by obtaining patents in developed technology. The tension between open standards and exclusive proprietary technology has led to legal conflict. This note addresses the problems that can result when patent owners participate in the standard-setting process. It also discusses how the courts have treated these problems. This note concludes with proposals of procedures the courts could adopt to safeguard the standard-setting process.

Uniformity standards are both increasingly common and valuable in the development of high technology. Consumers and users of high technology benefit from product uniformity which allows products to be easily compared.[4] In addition, new producers are allowed easier

1. *See* Raymond T. Nimmer, *Standards, Antitrust, and Intellectual Property*, 414 PLI/Pat 797, 799 (1995).

2. *See* James J. Anton & Dennis A. Yao, *Standard Setting Consortia, Antitrust & High Technology Industries*, 64 ANTITRUST L.J. 247, 257 (1995).

3. *Id.* at 257. *See also* Nimmer, *supra* note 1, at 799-800.

4. Michael A. Epstein, *Standards and Intellectual Property*, 365 PLI/Pat 849, 850 (1993); Nimmer, *supra* note 1, at 800-803.

entry into a market, which increases the number of suppliers.[5] Finally, uniformity encourages the development of compatible products, allowing enhanced functional and economic value.[6]

Producers of high technology also see the added value of developing industry standards. Adopting standards extends the marketable life of a conforming product, since compatible technology will evolve around the standard once it becomes prevalent in a market.[7] Producers also have lower costs in developing new products if they can rely on the base of standardized technology.[8] Finally, producers have lower marketing costs in bringing products to a predefined market.[9]

Developing industry standards for technology covered by proprietary rights is not easy. Corporations participate in setting an industry standard to lower costs and increase profits. The standard should be freely accessible, so that a corporation can use it without additional costs. A corporation with proprietary rights to technology, however, will also benefit if their technology is adopted as an industry standard. The standard-setting organization must encourage participation in standard setting and open standards.

This note discusses various legal doctrines that can affect patent holders that participate in the standard-setting process. This note also analyzes infringement defenses against patent holders and antitrust actions brought by the government. Finally, this note proposes that the government, in bringing antitrust actions, should use the duty to deal as a more efficacious remedy for unfair competition actions.

Corporations spend heavily to secure patents. The benefits attained by securing a patent motivates further innovation. However, corporate ownership of proprietary rights conflicts with the open system of standards. Analysis of the implications for patent holders who participate in the standard-setting process requires an understanding of the law governing standard-setting bodies.

5. *Id.*

6. *Id.*

7. Epstein, *supra* note 4.

8. *Id.*

9. *Id.*

I
The Standard-Setting Process

Two distinctions need to be made about industry standards. The first is between standards that develop naturally and standards that are imposed by standard-setting organizations. A natural standard evolves when a technology achieves sufficient market share to force others to build compatible technology around this product.[10] Examples of such de facto standards include the DOS operating system and the IBM computer system architecture.[11] The market creates the standard by product dominance.[12]

In contrast to de facto standards, formal standards are adopted by organizations sponsored by an industry. Formal standards create uniform products in the market when producers voluntarily follow the standards. The nature of this formal standard-setting presents a risk of manipulation of the process for anti-competitive ends. De facto standards do not involve this risk.

A second distinction exists between uniformity standards and safety or quality standards. The uniformity standard increases compatibility among technologies.[13] In contrast, safety and quality standards set the minimum requirements that products must achieve before the product is allowed market entry.[14] Safety and quality standards have a unique set of antitrust problems that this paper will not address.[15] Instead this paper will consider the development of formal uniformity standards by private industry standardization groups.

The effort to develop standards is coordinated by the International Organization for Standardization ("ISO")[16] and the American National Standardization Institute ("ANSI").[17] The ISO publishes its standards. These standards can be voluntarily adopted by

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10. Joseph Farrell, *Standardization and Intellectual Property*, 30 JURIMETRICS J. 35, 39 (1989).

11. Epstein, *supra* note 4, at 852.

12. *Id.*

13. Anton & Yao, *supra* note 2, at 247.

14. *Id.* at 247-48.

15. Because the public interest is directly involved, the government may have more involvement in these standards.

16. Epstein, *supra* note 4, at 852.

17. *Id.*

high technology companies.[18] Within the United States, ANSI accredits standard-setting associations for various industries.[19] These associations are comprised of representatives from corporations within an industry and develop standards for that industry.[20] These representatives must formulate procedures to address the problem of patent rights as impediments to the development of open standards. In order to understand the problems facing standard-setting organizations in developing procedures to regulate patent holding participants, the law governing patents must be examined.

II
The Patent Process

The patent system in this country has its roots in the constitution. The United States Constitution states, "Congress shall have power. . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."[21] Congress acted on this grant of power and enacted the first Patent Act in 1790.[22] Congress modified this Act several times, the most recent of which resulted in the present Patent Act, enacted in 1952 and codified in Title 35 of the United States Code.[23]

In its current form, the Act requires that an inventor seeking a patent must prove that the inventor developed a novel, useful, and nonobvious process or product.[24] To determine if a claimed invention is nonobvious, the statute requires that the invention not be obvious to a person of ordinary skill in the art. These determinations are made at the time of invention in light of the prior art.[25] The Court of Appeals for the Federal Circuit and the United States Patent and Trademark Office ("PTO") recognizes that secondary, objective factors, such as commercial success, filling a market need, and the

18. *Id.*
19. *Id.* at 852-53.
20. *Id.*
21. U.S. CONST., art. 1, § 8, cl. 8.
22. Patent Act of Apr. 10, 1790, 1 Stat. 109 (1790).
23. Patent Act, 35 U.S.C. §§ 1-376 (West Supp. 1996).
24. 35 U.S.C. §§ 101, 103 (1994).
25. 35 U.S.C. § 103.

inability of others to develop the needed technology, can also be used to aid in finding nonobviousness and novelty.[26]

In addition to requirements that the invention be novel and nonobvious, the patent must fully disclose the invention and provide enough information to enable a person of ordinary skill in the art to reproduce the invention.[27] The inventor of the technology must also disclose the best contemplated mode of using the invention.[28] Once a patent issues, the owner obtains the right to exclude others from making, using, or selling the claimed technology for a period of twenty years from the application's filing date.[29]

When an inventor applies for a patent, the PTO reviews the application and decides whether or not to grant a patent.[30] The PTO may reject some or all of the initial claims, and the patent drafter then amends the claims and distinguishes the invention from the prior art.[31] Once the patent issues, the PTO publishes an abstract of the patent and adds the patent to the patent library.[32] The examination process can take many years.[33] While the application is being reviewed, it is inaccessible to the public.[34]

III
The Perspective of Standard-Setting Bodies

The purpose of setting industry standards is to develop an open base of technology that serves the competitive ends of the member companies.[35] Uniformity allows a broader market for a variety of compatible goods.[36] Because patents grant exclusive rights, unlicensed patented technology may be contrary to the uniformity standards

26. *See* Graham v. John Deere Co., 383 U.S. 1, 17 (1966).

27. *See* 35 U.S.C. § 111 (1996).

28. *See id.*

29. *See* 35 U.S.C. § 154 (1996).

30. 35 U.S.C. §§ 131-139 (1996).

31. 3 DONALD S. CHISUM, PATENTS: A TREATISE ON THE LAW OF PATENTABILITY, VALIDITY, AND INFRINGEMENT § 11.03 [1][c] (1996).

32. *Id.* § 11.01.

33. *Id.*

34. *Id.* § 11.02 [4].

35. Nimmer, *supra* note 1, at 799.

36. E. Robert Yoches & Kenneth M. Frankel, *Legal Implications of Standards in the Computer and Software Industries*, 414 PLI/Pat 773, 775 (1995). *See also* Nimmer, *supra* note 4, at 799.

communal to an industry.[37] Standard-setting groups know that their members will participate only if the integrity of the standard-setting process is secure, and the standards that are adopted will not end up trapping production into their competitor's proprietary technology.[38] At the same time, individual corporate members seek to capitalize on their own discoveries, and will not participate in the standard-setting process if it appears to endanger the marketability of technology contained in the member's patents.[39]

One possible option for the standard-setting group would be to exclude categorically all patented technology from any standards that are adopted. However, the Federal Trade Commission ("FTC") believes that the per se exclusion of technology solely because the technology was patented and without any further evaluation constitutes a violation of Section 5 of the FTC Act.[40] An Ohio standardization body, whose members consist of manufacturers of plumbing products, agreed to an FTC consent order prohibiting the per se exclusion of proprietary technology from inclusion into a proposed standard as an unreasonable restraint of trade.[41] The FTC alleged that such a per se exclusion would result in the exclusion of innovative products from market entry and mislead purchasers about the nature of the product that was not included in a standard.[42]

There are several pro-competitive reasons for allowing patented technology to be adopted as the industry standard. Applications for patents remain secret until the patent is granted. A per se rule against the inclusion of patented technology would be impractical because once these applications are granted, the standard would need to be abandoned or revised if patented technology had been included. Many patented devices claim cutting edge technology. Refusal to even consider this technology would eliminate from inclusion into standards technology that could prove beneficial to an industry. Even if the technology requires licenses, members of an industry may be willing to standardize using the more expensive but superior product. Finally, the per se rule excluding patents could serve the anticompetitive ends of barring innovators from the standard-setting

37. Yoches & Frankel, *supra* note 36, at 776.

38. *Id.*

39. Epstein, *supra* note 4, at 853.

40. *See In re* American Soc'y of Sanitary Eng'g, 106 F.T.C. 324 (1995).

41. *See id.*

42. *See id.*

process. The FTC consent order, by prohibiting the per se exclusion of technology from inclusion in a standard, promotes competition.

Standard-setting groups must guard against standards that limit competition. Courts have required that standards serve a legitimate purpose and not be unnecessarily harmful to competition.[43] The courts guard against standards adopted to exclude competitors from market entry or to narrow competition. A standard-setting body may not use patents to erect a barrier to market entry. To be included in a standard, a patent owner must make the patented product reasonably available.

The organizations that accredit standard-setting bodies have developed a set of policies to govern the groups.[44] The ANSI Patent Policy states, "[t]here is no objection in principle to drafting a proposed American National Standard in terms that include the use of a patented item, if it is considered that technical reasons justify this approach."[45] However, ANSI also adopted strict regulations governing when a patent could be included.[46] These regulations require that the owner of proprietary technology that participates in the standard setting process must: (1) disclose any proprietary technology covered by the standard; and (2) agree to provide free licenses to the technology to those who adopt the standard; or (3) agree to license the technology at a reasonable rate and without discrimination.[47] These guidelines have been widely adopted by standardization organizations.

IV
Duty of Disclosure

A standardization body must not refuse requests for inclusion of specific technology into an industry standard solely because that technology is patented.[48] But a patent owner must still surrender some rights before proprietary technology will be included in an industry standard. Standardization groups have policies requiring participants

43. *See* American Soc'y of Mechanical Eng'rs, Inc. v. Hydrolevel Corp., 456 U.S. 556 (1982); Clamp-All Corp. v. Cast Iron Soil Pipe Inst., 851 F.2d 478 (1st Cir. 1988).

44. Yoches & Frankel, *supra* note 36, at 776; Epstein, *supra* note 4, at 862-66; Nimmer, *supra* note 1, at 835-38.

45. ANSI's Procedures for Development and Coordination of American National Standards [hereinafter ANSI Procedures], *reprinted in* Nimmer, *supra* note 1, at 851.

46. Epstein, *supra* note 4, at 862.

47. ANSI Procedures, *supra* note 45, at 839.

48. *American Society of Sanitary Eng'g*, 106 F.T.C. at 324.

to disclose any patent rights held.[49] Failure to disclose a patent covered by a standard may result in a ruling that the patent is not enforceable under equitable and legal estoppel, the misuse doctrine, or the doctrine of inequitable conduct before the PTO.

A. Equitable Estoppel

Although few cases to date have focused on the fate of retaining patent rights during the standard-setting process, the cases that do exist focus on the duty of the patent holder to disclose any patents that would cover the standard or products made under the standard. The doctrine of equitable estoppel may bar patent holders the ability to enforce their patents if they participate in the standard-setting process and fail to disclose their patent holdings.

The elements of equitable estoppel are: (1) statements or actions that communicate information in a misleading manner; (2) reliance on the communication; and (3) injustice resulting from the reliance.[50] It is critical to determine if the owner of the patent created the reasonable belief that the patent would not be enforced.[51] Silence alone is not enough to constitute a misleading action.[52] But the further act of promoting the standard while remaining silent about any patent rights that may affect the standard has been found to be enough to trigger the loss of the ability to enforce a patent.[53]

In an initial case where a court applied equitable estoppel, the patent owner held a patent on a standardized magnetic tape recording system.[54] Potter, the patent owner, had licensed the patent to IBM, and IBM proposed to a standard-setting organization that the patent be adopted as the industry standard.[55] Representatives of both Potter and IBM attended the meeting where the proposed standard was discussed and both remained silent about patented technology that would be included as part of the standard.[56] The court found:

49. ANSI Procedures, *supra* note 45, at 851.

50. *See* A.C. Aukerman Co. v. R.L. Chaides Constr. Co., 960 F.2d 1020, 1041 (Fed. Cir. 1992).

51. *Id.* at 1043.

52. *Id.* at 1042; Hemstreet v. Computer Entry Sys. Corp., 972 F.2d 1290, 1295 (Fed. Cir. 1992).

53. *Aukerman*, 960 F.2d at 1042.

54. Potter Instrument Co. v. Storage Tech. Corp., 207 U.S.P.Q. 763, 765 (E.D. Va. 1980).

55. *Id.* at 766.

56. *Id.*

> Potter actively participated with the ANSI subcommittee in developing . . . the industry standard—it intentionally failed to bring its ownership of the '685 patent to the committee's attention notwithstanding the committee's policy to the contrary. By so doing, Potter has gained a monopoly on the GCR standard without any obligation to make its use available on reasonable terms to competitors in the industry.[57]

The standard-setting group used "a written policy, of which all members were aware, stating that when any one or more patents are to be included within a proposed industry standard, the owner of such patent(s) must bring to the attention of the [standard setting body] the existence of such patents."[58] This was found to satisfy the initial element of equitable estoppel.[59] The court held that "[e]quity will rarely, if ever, permit one to waive by acquiescence its alleged patent rights, for a long period of time, and attempt to assert them after they have been adopted as the industry standard."[60] The court found that Potter had actively participated with the standardization group in developing the tape technology as a standard.[61] Participation without disclosure resulted in an estoppel that prevented the enforcement of the patent.[62]

In another case enforcing this doctrine, the patent holder owned rights to a device that verified the Personal Identification Numbers for automatic teller machines.[63] The patent holder sat on a committee that adopted his device as the industry standard and failed to notify the committee that the proposed standard infringed his patent.[64] After the use of the standard had become widespread, the patent holder attempted to enforce the patent.[65] The district court, using the equitable estoppel doctrine, refused to enforce the patent.[66] The court found that the owner of the patent had an affirmative duty to disclose the patent rights and that the failure to disclose was affirmatively

57. *Id.* at 769.
58. *Id.* at 766.
59. *Id.*
60. *Id.* at 769.
61. *Id.*
62. *Id.*
63. Stambler v. Diebold Inc., 11 U.S.P.Q.2d 1709 (E.D.N.Y. 1988), *aff'd*, 878 F.2d 1445 (Fed. Cir. 1989).
64. *Id.* at 1714-15.
65. *Id.*
66. *Id.*

misleading.[67] The court reasoned that, "[the patent holder] could not remain silent while an entire industry implemented the proposed standard and then when the standards were adopted assert that his patent covered what manufacturers believed to be an open and available standard."[68]

These cases establish a duty to disclose a patent for participants in the standard-setting process. The courts in both of these cases give some attention to the rules of standard-setting organizations in establishing this duty. This gives some incentives to these organizations to develop clear rules requiring disclosure. These rules would put participants on notice that participation in the standard-setting process has certain liabilities.

One question that remains from these cases is whether mere knowledge of the proposal of the standard creates a duty to disclose proprietary rights. There is some suggestion that this might be the case. In *Stambler v. Diebold* the court noted: "It was well known . . . throughout the industry that [the provisions] were being contemplated as national and international standards."[69] This indicates that participation in the standard-setting process might not be required for the estoppel to apply, mere knowledge of the standard could be enough. Commentators have also noted that this case could imply that any party privy to the standardization process may have a duty to disclose.[70] This gives some perverse incentives to patent holders. Even though courts recognize that the standardization process can be procompetitive, this duty of disclosure provides incentives for companies to maintain total ignorance of the standard setting process in order to protect their proprietary rights. The courts need to clarify this point and should indicate that mere knowledge is not sufficient to establish the estoppel.

B. Legal Estoppel (Implied License)

In addition to the risk of equitable estoppel, legal estoppel[71] presents another risk to patent holders. In *Wang Laboratories, Inc. v. Mitsubishi Electronics America, Inc.* the court held that to prove the implied license defense a party must show: (1) that the plaintiff and

67. *Id.*
68. *Id.* at 1715.
69. *Id.*
70. Epstein, *supra* note 4.
71. Legal estoppel is also referred to as "implied license."

the defendant have an existing relationship; (2) within that relationship one party transferred to the other a right to use technology; and (3) the right was transferred for valuable consideration.[72] The court in this case instructed the jury to "consider the statements and conduct . . . from which one could reasonably infer . . . consent to making, using, or selling products . . . under the patent."[73] This doctrine was applied in a decision that involved participation by a corporation in setting a standard that would include its proprietary technology. In this case, Wang Labs owned a patent for a computer memory module.[74] Wang promoted the memory device in the trade press, and in a meeting with the trade press Wang indicated that it would not seek patent rights in the device but instead would try to get others to begin manufacturing the device for Wang to purchase.[75] In addition, a Wang representative attended several meetings of the Joint Electronic Device Council ("JEDEC") and convinced the group to adopt the Wang technology as the industry standard.[76] After more than two years of lobbying, the module was adopted by JEDEC as the industry standard and several companies, including the defendant, Mitsubishi, began making the module.[77] During this time, Mitsubishi had been engaged in ongoing discussion with Wang about the possible inclusion of the Wang module in Mitsubishi's product line.[78] Wang encouraged Mitsubishi to begin to produce the module and agreed to purchase a supply of the product. However Wang never explicitly disclaimed proprietary holdings.

The *Wang* court, in reviewing the law, stated that the doctrine of legal estoppel is narrower than equitable estoppel and requires that a patentee act to assign the right, receive consideration, and then attempt to negate the assignment.[79] Legal estoppel depends on an affirmative transfer of a right, unlike equitable estoppel, which focuses on misleading conduct.[80] In this case, Wang's action before the standard-setting committee in attempting to have the device

72. Wang Labs., Inc. v. Mitsubishi Electronics Am., Inc., 103 F.3d 1571, 1576 (Fed. Cir. 1997).

73. *Id.*

74. *Id.* at 1573.

75. *Id.* at 1575.

76. *Id.*

77. *Id.*

78. *Id.*

79. *Id.* at 1581.

80. *Id.*

designated an industry standard was held to reasonably demonstrate two facts. First, these acts demonstrated Wang received consideration in the form of wide-spread adoption of the module as the industry standard with the resulting advantages of a larger number of producers and lower costs per unit.[81] Second, these acts indicated that Wang consented to allow others to make, use, or sell the device.[82] The totality of Wang's acts constituted a transfer of a license to Mitsubishi to produce the memory module.

The facts in this case are very similar to the facts in the cases establishing equitable estoppel. Wang's conduct in lobbying for the adoption of the standard well exceeds what the courts required to establish equitable estoppel in earlier cases. However, in this case, only Mitsubishi was granted an implied license, Wang remained free to enforce the patent against other infringers, even other infringers that were relying upon the industry standard. This is inconsistent with the earlier cases.

The courts should be consistent in their approach to disclosure. Uncertainty will likely result in both unnecessary litigation and disruption of the standard-setting process, as patent holders try to decide which approach the court would take. The duty to disclose was adopted by the standard-setting body to maintain confidence in the open nature of standards. If these rules do not have some legal force, there will likely be a chilling effect on the standard-setting process. Uniform application of the rules will lend some certainty to the process.

C. Additional Remedies

In addition to equitable and legal estoppel, there are other defenses to patent infringement that can be used if the alleged infringer believes that the patent owner has abused the standard-setting procedure.

1. *Misuse*

The doctrine of misuse was developed by the courts to ensure that the patent grant would not be used to secure market power beyond the scope that Congress granted.[83] Using a patent to unfairly

81. *Id.* at 1582.

82. *Id.*

83. 5 DONALD S. CHISUM, PATENTS: A TREATISE ON THE LAW OF PATENTABILITY, VALIDITY, AND INFRINGEMENT § 19.04 (1996).

compete constitutes misuse of the patent.[84] The court will then enjoin the patent holder from enforcing the patent until the misuse has ended.[85] This result allows the patent holder to cure the misuse and thus is a bit less severe than the remedy of equitable estoppel. If misuse of the patent is found through non-disclosure of the patent to a standard-setting organization, the misuse could be cured by disclosure of the patent to the standard-setting body and agreement to license the proprietary technology to the users of the standard under fair, non-discriminatory terms.

2. *Inequitable Conduct*

Inequitable conduct is a final doctrine that restricts the ability of a patent owner to enforce a patent under certain conditions.[86] This doctrine focuses on the actions by the patent holder taken in prosecution of the patent before the PTO.[87] If a patent holder intentionally misrepresented information to the PTO, the patent will not be enforceable.[88] This can become an issue if in the prosecution of a patent, the inventor claims that commercial success is an indication of the nonobvious and novel nature of the patent.[89] The PTO in recent years has increasingly relied on commercial success as an objective indication of novelty and nonobviousness.[90]

However, the PTO needs to become aware that the standard-setting process presents one way to produce commercial success without the success being a reflection of the novel nature of the invention. If a device is adopted as a standard, the widespread use of the device would indicate a desire within an industry to develop uniformity by producers. The market success of the product would be an inaccurate indication of the novelty and utility of the product. This would be especially true if the prior art is quite similar to the patent. The market success of the product may solely reflect the fact that the technology was adopted as an industry standard.

Congress should change the statute to require the PTO to determine if any industry standards cover the technology contained

84. *Id.*

85. *Id.*

86. *Id.*

87. *Id.*

88. *Id.*

89. *See* Hazel-Atlas Glass Co. v. Hartford Empire Co., 322 U.S. 238 (1944); *In re* Palmer, 451 F.2d 1100, 1102-03 (C.C.P.A. 1971).

90. CHISUM, *supra* note 83, at § 19.04.

within a patent. By making this determination the PTO could more accurately assess whether commercial success is not, in fact, a reflection of the novelty and utility of an invention. Standards are now published on the Internet; searching standards to determine if they contain a specific technology is increasingly simple.[91] By making this determination, the PTO could prevent a patent from issuing if the patentee abused the standard setting process.

V
Antitrust Liability

Antitrust liability presents a major concern for participants in standard-setting organizations. Standardization involves agreements among horizontal competitors, which draw antitrust scrutiny.[92] Unless there is an agreement on price—or some other per se unlawful agreement—the courts use the rule of reason to determine if the cooperation among competitors will have anticompetitive effects.[93] Standard-setting organizations must guard against adopting standards that unreasonably shut out competitors. Prohibiting any proprietary technology from inclusion in a standard has been challenged.[94] To enforce antitrust laws, the FTC has challenged the prohibition of patented products in standards[95] by relying on the rule of reason analysis to determine if the inclusion would serve procompetitive ends.[96]

Section 5 of the FTC Act provides an antitrust parallel to the equitable estoppel doctrine.[97] In one consent order, for example, the FTC had challenged enforcement of patent rights in a product involved in standard-setting.[98] An industry standard-setting body of major United States computer manufacturers, the Video Electronics Standards Association ("VESA"), adopted a design by Dell Computer for a VL-bus[99] as the industry standard.[100] Dell representatives who

91. *See ANSI Opens Single Standards Point,* ELECTRONIC COMMERCE NEWS, Mar. 3, 1997, at 3.

92. Epstein, *supra* note 4, at 881.

93. *Id.*

94. *In re* American Soc'y of Sanitary Eng'g, 106 F.T.C. 324 (1995).

95. *Id.*

96. Nimmer, *supra* note 1, at 825-26.

97. 15 U.S.C. § 46 (1996).

98. Dell Computer Corp., 60 Fed. Reg. 57,870 (F.T.C. Nov. 2, 1995) (proposed consent agreement).

99. The VL-bus is a device that carries information from the central processor of a

were members of the standard-setting body certified in writing the belief that their standard did not infringe on any patents owned by Dell.[101] After the VL-bus became commercially successful, Dell sought to enforce its patent.[102] The FTC brought an unfair competition charge stating that competition was restrained by: (1) hindering the adoption of the standard while the patent matter was resolved; (2) causing consumers to avoid systems using the VL-bus; (3) creating added cost to the adoption of the standard; and (4) chilling the willingness of other manufacturers to participate in the standard setting process.[103] The FTC argued the equitable estoppel and inequitable conduct doctrines.[104] Dell agreed in the consent order to stop its current attempts to enforce its patent.[105] In announcing the consent order for public comment, the FTC presented its legal argument for supporting the complaint:

> If a company misrepresents its patent rights to a standard-setting organization, thereby leading the organization to adopt a particular standard that may infringe on the company's patent rights, the company's later efforts to take advantage of market power resulting from the standard, rather than from some inherent value of the patent, constitutes a violation of Section 5. *Cf. Potter Instrument Co. v. Storage Technology Corp.*, 641 F.2d 190 (4th Cir.) (court would estop enforcement of patent where patent holder participated in a standard-setting process, intentionally failed to disclose the existence of its patent, and waited six years until the standard was widely adopted before seeking to enforce the patent), *cert. denied* 454 U.S. 832 (1981); III P. Areeda, *Antitrust Law* ¶ 707h at 141-42 (1978) (negligent misrepresentation to patent office can constitute exclusionary act for equitable antitrust purposes).[106]

A. Problems with the *Dell* Settlement

The *Dell* consent order harshly applies the protections of competition. FTC Commissioner Azcuenaga dissented from the consent order and argued that the complaint established a novel argument of liability.[107] She noted that there was no proof that Dell

computer to peripheral devices, such as disc drives and modems.

100. *Dell Computer Corp.*, 60 Fed. Reg. 57,870.

101. *Id.* at 57,872

102. *Id.*

103. *Id.*

104. *Id.*

105. *Id.*

106. *Id.*

107. *Dell Computer Corp.*, 60 Fed. Reg. at 57,873.

intentionally misled competitors.[108] The commissioner also noted that the decision placed a duty of care on the standard-setting organization members to investigate their patent portfolios to determine if any of their patents contain any technology that would come within a proposed standard.[109]

In alleging that Dell's actions constituted unfair competition, the FTC determined that the actions of Dell would have a chilling effect on the standard-setting process.[110] However, because technological standards are adopted quickly, an extensive duty to search may either decrease the ability to rapidly set standards in dynamic high-tech industries or chill participation in setting standards. It is unlikely that corporations will be willing to join in setting standards if participation jeopardizes patents that required extensive time and capital to secure. A duty to make exhaustive searches of patent holdings[111] may discourage participation in the standard-setting process. The *Dell* consent order could slow technological growth.

B. Duty to Deal

The equities in rendering Dell's patent unenforceable are uncertain. The use of the duty to deal as a remedy, however, would mitigate the harshness of the rule. In alleging that Dell had engaged in unfair competition, the FTC could have used the duty to deal to formulate the remedy and achieve a more reasonable result.

The courts have imposed a duty to deal with competitors when a party controls the market power in a resource and uses it to inhibit competition by denying the resource to competitors. Two cases illustrate the application of the duty to deal.

In *United States v. Terminal Railroad Assn.*,[112] the Supreme Court faced the problem of the denial of access to a natural monopoly controlled by a cartel. Several railroad companies acquired the Terminal Company, a business that owned the bridge across the Mississippi River into the terminal at St. Louis.[113] Competing railroads needed access to the bridge and terminal.[114] The Court held

108. *Id.*
109. *Id.*
110. *Id.*
111. *See PTO Statistics,* 53 PAT. TRADEMARK & COPYRIGHT J. 257 (BNA 1997).
112. 224 U.S. 383 (1912).
113. *Id.* at 392-93.
114. *Id.* at 403.

that the bridge into St. Louis was a unique resource and due to the nature of the geography surrounding St. Louis and the locations of the shipping facilities the resource could not be easily replicated.[115] The Court held that denying competitors access to the bridge constituted an illegal restraint on interstate commerce and as a remedy the Terminal Association had to admit to the Association any railroad that desired entry and provide access to the bridge without discrimination and under reasonable terms.[116]

In another opinion, the Court again created a duty to deal. In *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*,[117] the defendant denied a competitor access to a needed resource. In this case, the plaintiff and defendant both operated competing ski areas in Aspen, Colorado. The defendant operated ski runs on three mountains and the plaintiff operated ski runs on only one mountain.[118] The two companies participated in joint marketing, offering a discount ticket to ski at both companies' facilities for a fixed price.[119] The two companies divided the revenues by estimating proportional use of the facilities.[120] However, when the parties could not agree on the revenues the plaintiff would receive, the defendant discontinued selling an all-Aspen ticket, and sold tickets for only its own mountains. The plaintiff filed an action claiming that the refusal constituted monopolization.[121] The Court held that although there is no general duty, even for a monopolist, to deal with competitors, if a competitor acts to make a substantial change in the character of the market and this change inhibits competition without some legitimate competitive end, the monopolist can be enjoined from making the market change.[122]

The courts employ several factors used in finding a duty to deal. First, the courts require that one party control a resource. The party then must act to leverage the resource so that the resource becomes crucial to competitors. These acts must serve to restrict competition. Courts then hold that the duty to deal with competitors without

115. *Id.* at 404.
116. *Id.* at 410-11.
117. 472 U.S. 585 (1985).
118. *Id.* at 585.
119. *Id.*
120. *Id.* at 590-91.
121. *Id.* at 595.
122. *Id.* at 600-03.

discrimination and on reasonable terms will mitigate the anticompetitive effects. In the case of patent holders participating in the standard-setting process the patent would constitute the resource. By acting to have the patent adopted as a standard, the patent holder acts to leverage the value of the resource in the market. If the patent holder refuses to license the patent on fair and equal terms, competition will be restrained. The duty to deal would remedy the problem.

Both of the cases where the court found a duty to deal were cases charging monopolization. In contrast, Dell is not charged with monopolization, only unfair competition. However, the logic of the Court in *Aspen Skiing* is applicable. The duty to deal is a flexible remedy that could be applied in either case. The patent grant will not necessarily create an economic monopoly; alternatives could still exist.[123] However, establishing monopoly power is unnecessary and adds unneeded complexity to the calculation. Under the FTC's theory of unfair competition, the fact that a company leveraged the value of a patent would be sufficient to establish misuse of market power and anticompetitive efforts. "[W]hen a court finds actual anticompetitive effects, no detailed examination of market power is necessary to judge the practice unlawful,"[124] the use of the duty to deal as a remedy would then be appropriate.

A patent holder who participates in the standard-setting process is analogous to the defendant in *Aspen Skiing*. Under ordinary circumstances there is no duty for a patent holder to deal with competitors.[125] However, if a patent holder acts to increase the value of the patent by having the patented technology adopted as an industry standard, the patent holder's acts warrant the adoption of a

123. Walker Process Equip., Inc. v. Food Mach. & Chem. Corp., 382 U.S. 172, 177 (1965). In a tying arrangement, where the tying product is covered by a patent, it had been generally presumed that sufficient economic power exists to establish that element of an antitrust violation. *See* United States v. Loew's, Inc., 371 U.S. 38, 45 (1962); Jefferson Parish Hospital District No. 2 v. Hyde, 466 U.S. 2, 16 (1984). However, that presumption has been questioned by four justices of the Supreme Court. *Id.* at 37 n.7. Many lower courts have also questioned it. *See, e.g.,* Abbott Lab v. Brennan, 952 P.2d 1346, 1345 (Fed. Cir. 1990); Mozart Co. v. Mercedes Benz of N. Am., Inc., 833 F.2d 1342, 1346 n.4 (9th Cir. 1987).

124. *International Ass'n of Conference Interpreters*, FTC Dkt. No. 9270 (Feb. 19, 1997) at 33-34; *Toys "R" Us, Initial decision*, FTC Dkt. No. 9278 (Sept. 25, 1997) at 112.

125. Dana W. Hayter, *When a License is Worse Than a Refusal: A Comparative Competitive Effects Standard to Judge Restrictions in Intellectual Property Licenses*, 11 BERKELEY TECH L.J. 281, 288 (1996).

duty to deal. As in *Aspen Skiing*, the actions that increase the market necessity of the resource are key to finding of the duty to deal.

In *Dell*, the Commission advanced four ways that Dell has inhibited competition by failing to disclose patent ownership while participating in the standard-setting process.[126] Imposing the duty to deal provides a superior method of redressing these restraints on competition. The FTC charged restraint on competition asserting that Dell's acts delayed the adoption of the standard, caused some parties to avoid the standard and raised the costs by adding uncertainty to the adoption of the standard.[127] By insisting on a duty to deal, the FTC would encourage more rapid resolution of the problem through a remedy that is effective and less likely to be contested by the accused company. This would alleviate delay and reduce the cost of adopting the standard. The FTC also charged that Dell's actions chilled willingness of corporations to participate in the standard-setting process.[128] Adopting the duty to deal will be much more likely to minimize the chilling effect on the standard-setting process than a remedy that holds patents unenforceable. Corporations have at times voluntarily agreed to license technology to any interested party on reasonable terms.[129] Resistance to the duty to deal would be slight.

Patents represent extensive research efforts and are expensive and time consuming to obtain.[130] It is likely that if companies perceive that participation in the standard-setting process endangers patent portfolios there will be a significant reluctance to participate in the process. The *Dell* consent order will imperil the ability of standard-setting bodies to rapidly adopt standards.[131] The need to check extensive patent portfolios for each proposed standard presents an onerous burden.[132] The duty to deal is much less severe than losing all patent rights. In fact, the duty to deal is what standard-setting bodies require from participants.[133] This indicates the standard-setting organizations believe that the duty to deal would not be offensive

126. *Dell Computer Corp.*, 60 Fed. Reg. at 57872.

127. *Id.*

128. *Id.*

129. *See ADA Announces U.S. Patent Grant for the Remote Module*, BUS. WIRE, Oct. 15, 1996, at 2.

130. Alex Barnum, *Proposed Treaty on Patents Under Fire*, S.F. CHRON., Dec. 20, 1993, at B1.

131. Richard H. Stern, *Loose Lips Can Sink Standards*, OEM MAG., Feb. 1, 1996, at 22.

132. *Id.*

133. ANSI Procedures, *supra* note 45.

either to the participants that hold the patent or the participants that will be using the standard. In light of these factors, the imposition of a duty to deal presents a superior method of dealing with unfair competition claims against patent holders who participate in the standard setting process without disclosing their patent holdings.

VI
Other Ways of Abating the Problems of Nondisclosure

A. Increased Awareness of Rules Governing Standardizing Bodies

One solution to the conflict between patents and standards that is both simple and effective is to have the corporate members of standard-setting bodies develop greater awareness of the rules governing disclosure for each standard-setting body in which the company participates. These rules may differ from one standard-setting body to the next, and some groups make a greater effort to exclude proprietary information from any standard that is set. Company representatives to standard-setting groups need to be aware that any assurances given about their knowledge of patents held by their organization may later create an estoppel that prevents the enforcement of patent rights and could also cause antitrust scrutiny. This could occur even if the representative did not in fact know of the patent's existence.

B. Changes to Patent Law

Another way to mitigate the problems caused by patents during the standard-setting process would be to change the patent examination procedure. Under the current patent system, applications remain secret while being examined. The examination procedure can take several years. During the examination period, the public is incapable of searching for the patent to discover if technology is in the public domain. However, the PTO has recognized the disadvantages of secret prior art and is proposing changing the rules of examination to require publication of applications after eighteen months.[134] The early disclosure of applications will allow standard-setting organizations to search the PTO for any pending patents on technology that could cover proposed standards.[135] Some of the problems of secret patents would be eliminated with this change.

134. *Pending Rulemaking*, 53 PAT. TRADEMARK & COPYRIGHT J. 14 (BNA 1997).

135. Some small inventors may not want disclosure before the patent issues because

VII
Conclusion

In the current boom of high technology, industry standards play a critical role in allowing a wide range of compatible products to develop, enhancing the value of the resulting products. Companies voluntarily participate in standard-setting groups and voluntarily adopt the standards for their product line with the belief that this increases both their own competitiveness and industry competitiveness. When corporate members participate in the standard-setting process, the corporation needs to inform their representatives that regulations may exist that compel the disclosure of any overlap between the proposed standard and any proprietary rights held by the corporation. If a representative fails to properly disclose that the corporation owns a patent that covers the standard, the courts could find that an estoppel bars the corporation from enforcing the patent.

Recently, the FTC has acted when a corporation tried to assert patent rights after participating in a standard-setting organization while the corporation's proprietary technology was adopted as an industry standard.[136] The FTC alleged that such practice was a method of unfair competition that both delays the adoption of the standard and chills willingness to participate in the standard-setting process.[137] The FTC alleged unfair competition without arguing any affirmative intent to mislead.[138]

Finding unenforceable the patent for a product that was a huge commercial success may create the result the FTC sought to avoid: discouraging participation in the standard-setting process. A better solution to the antitrust problems created by patent owners participating in the standard-setting procedure would be to impose a duty to deal. Where a corporation leveraged the usefulness of a patent by lobbying for the patented technology to be standardized, the courts may impose a duty to make the technology available to competitors without discrimination under preset terms.[139] The doctrine would require that the licenses be provided in a non-discriminatory manner

others who see it may be able to invent around the patent before it issues.

136. *Dell Computer Corp.*, 60 Fed. Reg. at 57,870.

137. *Id.*

138. *Id.*

139. MCI Communications Corp. v. American Tel. and Tel. Co., 708 F.2d 1081 (7th Cir. 1983).

and at a reasonable rate.[140] It mandates the voluntary procedure of standard-setting bodies that require the owner of a patent who participates in the standard-setting process to provide licenses for standard users under these same terms.[141]

Changes in patent law should have some effect on the problem of hidden patents during the standard-setting process. The PTO has proposed changing its procedure and publishing applications eighteen months after the application is filed.[142] This change will allow a standard-setting body to be able to search the literature for patents that might cover the standard. This changes the equities of failure to disclose if the failure to disclose was inadvertent.

With proper attention by the member corporations and the courts, the integrity of the standard-setting process can be maintained and standards will continue to benefit high technology industries. Standards hold great benefit for the economy. Proper stewardship by the courts and regulatory agencies can ensure the integrity of standard setting for years to come.

140. *Id.*

141. ANSI Procedures, *supra* note 45.

142. *Pending Rulemaking*, *supra* note 134, at 14.